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ABSTRACT

An art course was adapted from the Manitoba curriculum for grade 9 and delivered via teleconferencing to three small, geographically isolated schools in Birdtail River School Division, Manitoba. Participants included 1 adult planning to study art at a community college and 38 students in grades 8-10 at a German-speaking Hutterian K-10 school, a French-speaking K-11 school, and an English-speaking college preparatory school. The course was based on previous experience with an experimental teleconference art course, a review of practices of teaching art by distance education, and consultation with 11 Manitoba teachers who had taught other subjects via teleconferencing. Course design involved writing workbook modules that could also be completed via independent study, selection of texts and art reproduction kits for purchase by participating schools, preparation of supplementary visual displays, and planning of strategies to increase interactions between teacher and students and among students from different sites. Implementation steps included preliminary visits to each site for classroom preparation and orientation of students and class proctors, preparation of detailed proctor guides, meetings with principals to gain their support, and arrangements to transport student art assignments. Course evaluations by the teacher, students, and proctors indicated that teleconferencing, while no one's method of choice, was a viable delivery method producing results similar to those in regular classrooms. Recommendations relate to the status of teleconference courses in schools, provision of quality resources, and the search for appropriate models for teleconference courses. Contains 31 references. Appendices include evaluation questionnaires and course materials. (SV)

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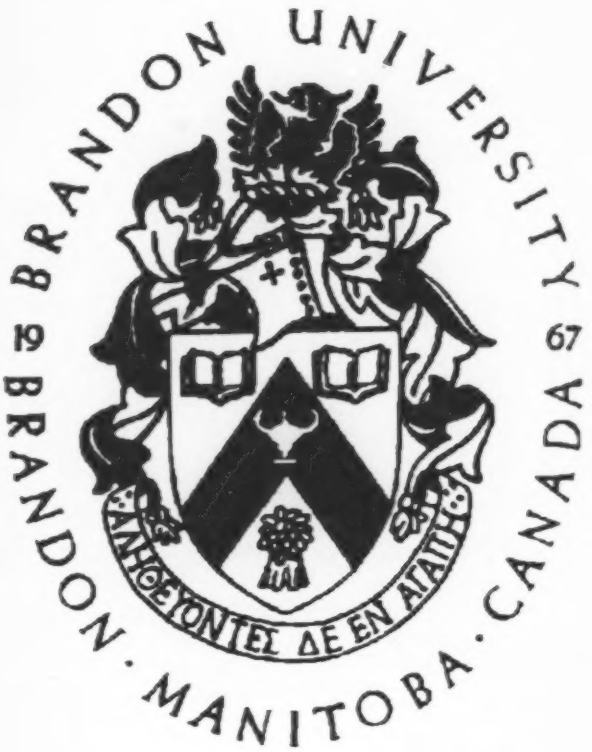

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BRANDON UNIVERSITY

Teaching Art by Teleconferencing in Rural Schools

by

Mary Judith Bewer

The Rural Development Institute
Brandon University

1994

Rural Education Research Series No. 4

This research was sponsored by a special grant from Manitoba Education and Training to the Rural Development Institute to sponsor graduate research in rural Education. This report is derived from a Project presented by the author to the Faculty of Education at Brandon University in partial fulfillment of the requirements for the degree of Master of Education.

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PREFACE

In 1991, Manitoba Education and Training, Manitoba Rural Development and the Rural Development Institute at Brandon University announced the Graduate Research in Rural Education program. This cooperative program was designed to 1) provide a framework for focusing on educational issues related to rural Manitoba, 2) provide assistance to graduate students who intend to study rural education, and 3) provide the Department of Education and Training with information for addressing education issues within the broader context of rural development.

To ensure that information is distributed widely, RDI retains the option of publishing results after theses and projects have been approved. In this manner, rural education is placed on the local and provincial agendas for debate, and citizens have access to information which may affect programs for their children. Development of the human resources of rural Manitoba remains the most significant endeavour in rural development.

The Rural Development Institute is pleased to announce the fourth in our series of publications on Rural Education Research. Joan Rollheiser, Administrative Assistant at RDI, prepared the document for publication. We thank Judith Bewer for her efforts on the project. Her teaching experience allowed experimentation with non-traditional delivery methods for art education in small rural schools. Dr. John Didyk of Manitoba Education and Training, and Bob Grodzik of Manitoba Rural Development assist in the Rural Education Research Program.

Dr. R. C. Rounds, Series Editor
Director, RDI

ABSTRACT

This project examined the teaching and learning of art by teleconferencing. The Manitoba Senior I Art Curriculum was adapted for teleconference delivery and was piloted to three schools in a rural school division. Evaluations of the program were made by the author, by school personnel who supervised at the sites, and by the participating students. Evaluations indicated that teleconferencing is not the method of choice of either teacher or students, but it is a viable method producing results similar to those is regular classrooms. Recommendations are made regarding the status of teleconference courses in schools, the necessity of providing quality resources and the direction in which the search for appropriate models for teleconferencing courses could proceed.

AUTHOR'S ACKNOWLEDGEMENTS

Thank you to all the students at Kenton, Decker, Miniota, St. Lazare, Birtle and Foxwarren for working with me on this project. Your comments, both formal and in conversation, have proved informative. Thank you also to the Rural Development Institute for funding and to Dr. John Mallea and Dr. Richard Rounds for invaluable advice.

Mary Judith Bewer

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Glossary of Key Terms

The Experimental Art Course	An experimental art course taught by the writer/teacher to four small schools in Birdtail River School Division in 1992.
Independent Study Program	Formerly the High School Correspondence Program for the Province of Manitoba.
Pilot Teachers	Teachers who piloted the 1992 Senior I Art Curriculum in regular classrooms.
The Senior I Art by Teleconference Course	The pilot project course which is the subject of this study.
Senior I Art Curriculum Committee	A committee struck in 1992 to rewrite the Grade 9 Art Curriculum for the Province of Manitoba.
Teacher Mediated Program	A program in which groups of students are taught by a teacher via teleconferencing.

THE BACKGROUND

Birdtail River is a rural school division that has 11 small schools and an enrolment of 1400 students. Most of the schools are small and do not have sufficient numbers to warrant the hiring of specialist teachers to teach optional subjects. The schools are distributed over a large area, the distance between two of the schools being 96 kilometres. The school division is one to two hours travelling time from Brandon and three to four hours from Winnipeg.

Increased competition for a decreasing number of jobs is causing parents in rural areas to insist that their children have access to the range of courses available to urban students. Because of declining enrolment and funding cuts, rural divisions are unable to increase course offerings in a regular classroom, and students do not have the opportunity to take optional courses such as art and music. One way to increase choices without substantially increasing costs is to use distance education technology.

As early as 1985, Birdtail River School Division began investigating distance education, and several projects, including a shared course between Shoal Lake and Strathclair, were in place by 1989. That year four principals of small schools selected art as an option to be prepared and delivered during the 1991-92 school year to Grade 7 and 8 students. Before the project could begin, however, funding was cut and an interactive television component was dropped. Funding remained for teleconferencing only, and although the notion of teaching art by teleconferencing engendered concern, an experimental program was initiated. Much of what was learned in teaching this course was invaluable in writing and organizing the course which is the focus of this project.

In 1992, with the imminent implementation of the Province of Manitoba's High School Review, the Chief Executive Officer of Birdtail River School Division requested a grant to fund an art course for credit at Senior I (formerly Grade 9) level. The grant was sufficient to cover the expenses of a teacher to write the course and pilot it via teleconference. Thus began an examination of the problem: Can art be taught successfully via teleconference?

Statement of the Problem

In 1992, Manitoba Education and Training (the Provincial Department of Education) was in the process of rewriting a new art curriculum for Senior I students. The issue was to find a way of delivering this course to students in a division where the option was not available as a traditional classroom course. Teleconference was proposed as a possible solution.

There were several potential problems. The first concerned the level of students taking the teleconference course. Originally teleconference courses had attracted a few Grade 12 students needing advanced academic credits such as Calculus. Senior I Art would be offered to whole classes of students who were quite young and who would begin the course with different levels of ability and commitment. How could the commitment of younger, variously motivated students be fostered?

The second problem concerned the visual nature of art. How could the visual requirements of the course be satisfied? How could the teacher demonstrate the skills that students would need to see to learn? The third problem concerned the degree of adaptation from the Manitoba Art Curriculum that would be needed to accommodate the difficulty of distance, especially since the Distance Education and Technology Branch required course writers to maintain a close curricula match. Finally, the question of evaluation needed to be studied. Art curriculum guidelines recommend evaluation of the art process as well as the art product. How could the process be evaluated if it was seldom seen?

Significance of the Problem

It is essential that appropriate models for teaching art by teleconference be sought in order that teachers have models to examine when planning courses. The search for models is in its early years, and one could compare it with the advent of film making techniques in the theatre industry, in which at first the camera operator simply filmed a stage performance. Similarly in education, the teachers who are engaged in distance education must investigate new ways of teaching using new technology. Methods must develop from the initial step of repeating the action on a traditional classroom stage. This project is, therefore, an attempt to examine some early methods, to incorporate them into a course, to pilot the course and to describe the results. It is an initial search for a workable model. In this search and its subsequent findings lies the significance of the project.

Procedures

In response to the problem outlined, the following steps were taken:

1. Teachers who currently are adapting and teaching courses by teleconference were surveyed. Input was requested on the following areas: degree of adaptation, uses of visuals, evaluation and difficulties encountered (see Appendix A).

2. An experimental art course taught the previous year was closely scrutinized.

3. The project writer/teacher joined the Manitoba Senior I Art Curriculum Committee to study the curriculum as it was being written.

4. The Senior I Art Course was rewritten as an Independent Study and a Teacher Mediated Course.

5. The course was piloted by teleconference.

6. Evaluations were made by teacher, students and proctors.

7. Recommendations are made.

The Setting and the Students

Three schools participated in the course. School A was a Hutterian K-10 school with two rooms. The head of the colony and the principal had requested options for high school credit. Some students had already taken teleconference courses. The second school, B, was a K-11 French school. The students also needed options to meet graduation requirements. The third school, C, was a collegiate, a central school receiving students from three feeder schools. The course was not essential for a credit at C, but was requested by the Resource Teacher who saw art as a needed option for some students.

An interesting mix of students enroled in the course, and an equally varied mix of support systems was established in the schools. At school B, all 22 Grade 9 and 10 students were registered as a class in the course. The class included students with a wide variety of academic and artistic ability. All students had taken art classes in earlier grades, including grade 8, from a teacher assistant supervised by a classroom teacher. The assistant is a practising amateur artist with talent, strong convictions and considerable enthusiasm. The Manitoba curriculum was not followed because visual appreciation and theory were not included in art lessons, but making art was taken seriously and student work given importance through beautiful displays. Four of the 22 students were from families where artistic ability appears to run in the family. Four other

students, however, were in the class only because it was mandatory and they needed the credit. All students were resistant to the suggestions made at the introductory session that there would be work assigned, including some written work, outside the teleconference session.

A strong support system was in place in the school, as the administration was eager to have the course. Art was timetabled for four double periods, and a room with tables, water and display areas was designated. The artist/teacher assistant was hired to be present at all sessions as the proctor. (A proctor is a person designated to be present with the students during teleconference sessions. He/she is requested to supervise classroom assignments, to prepare materials and to keep students to deadlines.) Finally, the classroom teacher was available if needed.

At School A (the Hutterite Colony) all six Senior I's plus one Grade 8 student were enroled. All had participated in the Grade 8 art course taught by teleconference the year before. This had been based on the Manitoba Art Curriculum and had included visual appreciation, some history and some basic art theory. A prerequisite was in place.

Among the seven students, three were talented and practised art at home. The others considered art to be a frill, and, although compliant, were not enthusiastic. During the second week, two adults asked to take the course for credit. The pleasure they took in art theory, as well as their practical ability, had a positive effect on the students who were initially unenthusiastic. This school also had strong support from the administration, adequate timetabling and required space, texts and supplies. The proctor was a teacher assistant with an interest in art and good artistic skills. The supervising teacher, in this case the principal, taught in the adjoining room.

School C (the collegiate) already had enough options in place and decided it was not essential to offer an art credit. Consequently the subject was not timetabled. Students who had heard that a teleconference course was available in the division asked permission to take the course. They had to opt out of their regularly timetabled classes and make up the missed work on their own time. In addition they had to find time to do the written and sketching tasks assigned as part of the art course. The administration provided a facility and supplies, but no regular proctor. Proctor duties became the responsibility of the Resource Teacher who had to leave the teleconference sessions for meetings and emergencies. At these times other teachers were assigned to cover the teleconference class during their spare periods. Although the Resource Teacher was eager to have an art course in the school and was supportive, she was not given time to concentrate on the subject, and, like the students, had to fit it in to an already busy schedule.

Nine students participated; one an adult who planned to apply to Red River Community College to take a commercial art course, two capable and diligent students who enjoyed art, three students who were weak academically but who liked to draw, and three students who said they wanted to cut their regular classes. All except the adult were from a class noted for boisterous behaviour and an unwillingness to listen to directions. Teachers of the regularly scheduled classes were opposed to students opting out of them as they were concerned that the students would be unable and unwilling to make up the work missed. None of the students had had any art in school since elementary school, but all were adamant that it was their best subject.

In addition to this range of motivation, ability and previous art experience, each school had a different first language. The Hutterite students spoke German, the K-11 students French and the collegiate students English. This would prove to be important in delivering a course primarily by audio technology.

The remaining two schools in Birdtail River School Division attended by Senior I students refused permission to students who asked to take the course. The main reason was that as a result of a delay in funding, school timetables had been completed before the art course was confirmed. Also, school budgets had been set and money could not be made available for supplies. When several students and a trustee demanded that one school participate in the teleconference course, permission was refused on the grounds

that the students were academically weak and would be unable to keep up with both regularly scheduled classes and an art class. The regularly scheduled subject was deemed more important.

THE EXPERIMENTAL TELECONFERENCE ART COURSE: 1991-92

The writer of the Senior I Art Course project had learned much from an experimental art course taught the previous year. This course had been requested by principals of four small schools (Decker, Miniota, Kenton and Foxwarren) who wanted an option for students still attending K-9 schools. The course was funded by a grant from Manitoba Education Distance Education and Technology and was supervised by Karen Paulson and Leonard Plett of the Teacher Mediated branch at Wawanesa. An assessment of the course and what was learned from it follows.

Planning the Course

As this was to be an experimental course, no guidelines were available. It was left to the teacher to determine the level of art that had been reached by the students and to plan a course. The writer consulted the principals involved and discovered that although art had been enthusiastically taught, no formal program of skills acquisition or media experience had been followed. It seemed appropriate, therefore, to include instruction in basic skills such as looking and seeing, drawing, painting, sculpting, experimentation with various media, discussion of theory (the elements and principles of art), and visual appreciation.

This program was consistent with the goals and objectives of the Manitoba Art Curriculum Guide (1984). The writer prepared ten units of work each of which included visual appreciation, theory, skills acquisition and media experience. Schools were asked to buy copies of Discovering Canadian Art - Learning the Language (Bennet and Hall, 1987) for which the course writer prepared a student handbook designed to guide students through selected readings of the text prior to the teleconference sessions. The writer also prepared guides for the administrator and the proctor. Finally, on-air scripts for each lesson were written.

In planning the course delivery it was necessary to deviate from the methodology suggested by the Manitoba Art Curriculum Guide (1984), which recommends planning a variety of approaches. The number of students (52) and sites (4), together with the distance, suggested that initially a uniform approach would be more effective. Consequently it was decided that students would be led through a program of basic skills and theory in order for them to acquire sufficient background to explore and select from a variety of approaches in making art. The supervisors from Manitoba Distance Education and Technology approved of this approach and confirmed that keeping students at a common level would be advisable.

Piloting the Course

The course was piloted from January - May, 1992 in Kenton, Decker, Miniota and Foxwarren. All classes were multi-graded and ranged from Grade 6 to Grade 8. A total of 52 students participated.

The teacher travelled once a month to each school, teleconferencing from that site. Studio workshops were organized on two occasions to bring all students together at one site. The first occasion was for a whole day's workshop to study sculpture. The second was an art show for which each student contributed several pieces of work.

The course created much interest, particularly in the Distance Education Branch. First, the course had been taught to younger students than those normally taking teleconference courses. Second, it had been

taught to whole classes rather than to students who had chosen art as an option. Finally, it had a predominantly visual component which was difficult to deliver by teleconference.

External evaluation of the course was both formative and summative. Karen Paulson and Leonard Plett from Manitoba Distance Education and Technology were invited to monitor the classes via the teleconference network. They also attended class in Kenton to watch the process in the classroom. They both attended the art show to view the final art projects. Their comments indicated that art could be taught by teleconference using the program developed. This program currently is being used in Hutterian Schools.

What was Learned

From my perspective as the writer/teacher, much knowledge was gained from this experience. It became obvious early in the project that teaching art by teleconference demanded far more work than teaching in a regular classroom. Preparation of learning materials was multiplied by the number of schools. Four sets of visuals had to be found, labelled, laminated and mailed to the schools well ahead of class time. Classes were larger as many more students could be taught by one instructor (52 were in this class). In order to ensure that contact was made with each student during class, it was necessary to script the lesson and to pencil each student's name into the dialogue. Evaluating the work of 52 students in one class also was time consuming, especially because much of what an art teacher would say to a student in the course of a regular class would have to be written for a distance student. Finally, working hours were increased by driving time across what is the third largest school division in the province.

Evaluation was a problem as there were infrequent opportunities for formative evaluation. Art does not FAX well and has to await a writer/teacher visit. The teacher saw some products for the first time after they had been completed.

The teacher recognized several benefits arising from the course. The obvious one was that students in the class were becoming more knowledgeable about art. Also, several of the students who had simply "liked" art began to see career possibilities and ask questions about further courses. An unexpected outcome of teleconference lessons was the emergence of a wide variety of styles and interpretations in art works. What had initially been seen as a problem (lack of opportunity for the teacher to demonstrate) had resulted in lack of opportunity for students to copy the teacher. As a result, students' own styles predominated.

During the course the teacher kept the following question in mind: Do the students do better when the teacher is present and teleconferencing from that site? From the beginning it was noticeable that the work was more carefully done and more completely finished when the teacher was present. Although little individual assistance was given because the teacher was at the microphone teleconferencing to all schools, there seemed to be a Hawthorne effect. Students worked harder because they were being noticed. This effect also occurred when an interested proctor was in attendance.

The teleconference lessons raised two problems for administrators. One was having a supervisor or proctor in each classroom during the session. In Kenton, the teaching principal supervised the class. In other schools, teachers on spares, substitute teachers, or teacher assistants proctored. In these cases, two salaries were being paid, that of the in-school staff member and that of the on-air teacher. Also, when a teacher aide was used, the question of who was responsible for discipline arose. The on-air teacher could quell interruptions or on-air rowdiness, but might be unaware of students who were not working. Reluctant students found it easy to make only minimum attempts at work. Whose responsibility was this? The personality and effectiveness of the proctor became a critical issue in course delivery.

The administrators of the small schools recognized some social benefits arising from the teleconference sessions and decided to plan other activities so that interaction and stimulation would continue after the art

course ended. For example, three small schools continue to meet three times a year for sports and social activities. These activities had not taken place prior to the teleconference course.

A division art show was held at the end of the course. Every student was asked to show two pieces of art. However, because of student enthusiasm and the large number of art works, everyone showed four or five. Projects showed creativity, knowledge of art principles and technical skill. They provided visual evidence that art could be taught by teleconference. I decided that a useful Master of Education project would be the preparation, piloting and evaluation of such a course.

THE SEARCH FOR APPROPRIATE MODELS

A review of the literature located no information on teaching art by teleconference, but information is available on teleconferencing in general. Models for successful teleconference courses in rural schools have been described by Young (1989), Dillon (1986), Baker (1991) and Brain (1989). Gibson (1989) reported that students taking courses by teleconference were as successful as those in traditional classrooms. Since 1989 the main concern has been centered on learner support systems, and individualization of teleconference courses (Holmberg, 1989; Gunawardina, 1986; Gibson, 1989; Kruh, 1990; and Hathaway, 1989). Currently, researchers are suggesting a best fit technology in which teleconferencing is used in combination with other means of communications which are appropriate in a specific situation.

Review of Practices of Teaching Art by Distance Education

The teaching of art by distance education has been accomplished by methods other than teleconferencing. Two-way video is available to schools in North Dakota (Northern Red River, 1991). The Distance Education Centre of West Perth, Australia offers Art and Craft Design courses to lower school students. A print package supported by audio visual materials is supplied. Students can interact with each other through computers, telephone and FAX. The coordinator reported that the pilot project was disappointing and came to the conclusion that this medium was too limited as a method of delivery for art. A further pilot project using two-way video was effective, but was too expensive to be continued (Ted Bak, personal communication, January 4, 1993).

Canadian provinces offer art through correspondence courses. Their curricula are converted into modules. Content, which is a combination of art history, basic art theory and art skills instruction, is written into workbooks which students complete independently. Art production, mostly drawing and painting, is limited. Many workbooks have black and white photographs or photocopies of paintings and sculpture. Alberta includes a package of postcard size coloured reproductions which students glue into specified sections (Art ABC, 1989). Alberta also offers an art history course by teleconference (Prominent Canadian Painters, 1992). Each site receives a set of slides which are discussed by the instructor and students.

Recent Developments in Manitoba

Manitoba currently is rewriting its correspondence courses, recently renamed Independent Study Programs (I.S.P.). The format remains as a print package with three tests/exams being marked by a teacher. The I.S.P. packages are being used in Teacher Mediated (T.M.) programs which generally are taught by teleconferencing. In addition to completing the print package, the student has the opportunity to interact via audio teleconferencing with an instructor and other students. In a recent Grade 11 Art course designed by a Manitoba teacher, the visual component was enhanced by the use of satellite TV programs which demonstrated art techniques. The teacher led discussions in art appreciation using two-way audio (Marek,

1989). Also available are videos of local artists at work and local teachers working with students in critiquing student art.

The Need for a New Model

The Manitoba Art Curriculum Committee recently (1992-93) rewrote the Senior I Art Curriculum. At the same time the I.S.P. branch decided to rewrite the I.S.P. Art course for use in both the I.S.P. and Teacher Mediated (T.M.) programs. A writer/teacher was hired to write and pilot this new course by teleconference. In designing a model the writer/teacher was to draw from several sources of information a review of the literature, personal experience with the experimental course, the experiences of Manitoba teachers recently engaged in teleconferencing and personal philosophy of teaching and curriculum.

The Experience of Manitoba Teachers with Teleconferencing

The writer/teacher consulted with 11 teachers already involved in the provision of courses by means of teleconferencing. Telephone (3) and personal interviews (6) were used as well as mailed questionnaires. The questions focused on attempts to solve some of the problems the writer/teacher had encountered while teaching the experimental course, and the identification of any other problems that might be encountered and avoided (see Appendix A).

The problems of teaching art, however, were different from those of teaching math, science, social studies or language arts. Art seemed to be outside the normal core of T.M. subjects. Consultations with other teachers, therefore, afforded few solutions.

One question concerns the provision of visuals. This problem was identified in the experimental course. Photocopying art is unsatisfactory, and finding sets of visuals so each class could have a set was expensive. Teachers' responses indicated that this had not been a problem in courses other than art, as they used the recommended text supplemented by photocopied articles and diagrams. One response did refer to an art course taught by a teacher in Swan River who used satellite TV.

Another concern is the amount of adaptation required in the curriculum. This is a general problem for teleconferencing teachers, with recommended textbooks used widely in conjunction with print packages from the I.S.P. branch. Several teachers mentioned the difficulty of covering all the material. There appears to be more in the I.S.P. modules than would be covered in a regular classroom.

The teachers' responses did not help in the writing of an art course. However, they did provide the following ideas that help with any teleconference course.

1. Get to know the students by visiting the sites, attending ball games or conferences at the schools, or through other activities. Have photographs of each student.

2. Develop an on-air personality. Be chatty and casual in order to put students at ease.

3. Have students practice with the equipment before the course begins. Teach them to speak clearly.

4. Visit the principals to get their support and interest, and to establish guidelines for discipline.

The Writer/teacher's Personal Vision

The art curriculum was studied while working as a member of the Senior I Art Committee. Experience as a regular classroom teacher in rural areas provided knowledge of rural junior high students. Together these experiences helped form an image of what I wanted the students to achieve by the end of the course. The vision was one of a student who had become reflective about his/her learning, who had learned new skills and who was using both reflection and skills to present an idea visually.

COURSE DESIGN: WRITING THE MODULES

The I.S.P. branch requires that student modules correspond with units in the Senior I Art Curriculum Guide (1993). Modules are designed as student workbooks that can be worked through by an average student without help from a teacher. The workbooks contain answer keys. Students are evaluated by two examinations. These modules also would be used in T.M. courses. The teacher assigns parts of the modules to be studied off the air, and teaches other parts by teleconferencing.

Although course content and skills are the same for both programs, teaching methods are very different. In I.S.P. a student learns alone; in T.M programs the teacher interacts with several groups. Methods such as buzz groups, cooperative learning, posing of high level open-ended questions, and participant presentations may be used. Because successful learning of content is associated with style of delivery, the development of two separate courses would be appropriate. However, since there was neither time nor money for two courses, a one course fits all approach was adopted. The modules are written not only for a student working alone, but also indicate activities that would work well for a group. An I.S.P. student would be invited to partner another I.S.P. student as a pen-pal, and also was encouraged to engage family, friends and local artists in some activities to provide a group experience.

The second requirement of the I.S.P. branch is that the modules show a close curriculum match with the curriculum guide. Preserving the "heart" of the curriculum became a priority. However, the art curriculum guide mandates an approach which is significantly student centered - teacher facilitated, whereas I.S.P. and T.M. lend themselves better to content-centered teacher planned methods. Three examples illustrate the differences. First, the guide urges teachers to create a warm secure atmosphere in which students are comfortable enough to share both personal and common ideas. Senior I students frequently are inhibited in their willingness to share personal ideas even in a classroom setting. This reluctance is more marked over the bridges of teleconference equipment. Second, the guide advises that any teacher's tasks be determined by students' ideas for art. When a student has selected an idea and a medium for its expression, the teacher provides assistance with skills and materials in that medium. Writing this kind of facilitation activity into an I.S.P. lesson was not possible. With I.S.P.'s everything is written ahead of time; the student does what the teacher planned. T.M. lessons work very well with whole class lockstep instruction; conversely, individualized instruction may leave students restless, probably because the teacher is neither physically present nor connected on-air.

A third difficulty in writing the modules concerned student evaluation. Recent trends in education suggest that evaluation be formative; the Art Evaluation Guidelines (1990) also recommend formative evaluation. The five step art process, and the students' written thoughts concerning the experience of the process need to be evaluated, as well as the final product or artwork. Some of the Manitoba Art Committee members argued that 50 percent of the final mark be allocated for process. The I.S.P. guidelines, however, require three summative written tests and one exam of the course content. To resolve this conflict I submitted a written proposal to the I.S.P. branch asking for a variation from the guidelines. Variance was allowed and ways were designed to evaluate the process as well as the product. In total, however, the teleconference course was evaluated largely according to a traditional correspondence format.

Another interesting challenge was that of tone. The I.S.P. course writer's handbook (1990) requires that the modules be written in personal, colloquial language. Gibson (1989) recommends that a teleconference course have the character of a conversation, and incorporate invitations to exchange views and attempt to involve students emotionally. The transformation of the academic style of the curriculum guide into the friendly "I" and "You" of an I.S.P. module was at times artificial because an imaginary audience had to be created. Traditional teachers have real audiences with whom they interact daily. To maintain consistent tone over several months required concentration. This was facilitated by creating a writing team consisting of a member of the curriculum committee, and an art consultant who critiqued each unit. The most frequent criticism was inconsistency in the humour and lighthearted tone.

After the modules were written, the teacher selected which activities would be done on-air and which as assignments. The teleconference sessions were to be conducted once a week from 1:00 - 3:00 p.m. The first group of activities, each of which focuses on a different art problem or topic, is designed to be teacher directed on air. Following this are several problems entitled "Fact Finding" which are to be worked through during off-air periods. Some are group activities, some individual. Several require students to explore their learning processes and record their thoughts and findings in an idea journal. Other activities expect students to research through the text, visuals and reference materials. This usually is completed prior to the next teleconference lesson. On air, students are to pool their findings to evaluate their work and that of their peers. In every module specially numbered pages (log sheets) are included. Students are required to send these in so that the process as well as the product can be evaluated. Research findings, sketches, plans and evaluations are to be included on these sheets.

Visuals

One of the most difficult problems with the experimental course is provision of visuals. Teachers of non-art courses are able to photocopy diagrams, maps and other visuals, but this is unacceptable in an art course. Much of the literature of distance education strongly recommends the provision of quality learning materials (Monson, 1988, Braine, 1989). Therefore, in consultation with the Senior I Art Curriculum Committee, three sources of visuals were selected and their purchase recommended to participating schools. One is a kit of 150 reproductions, produced by a Montreal company (Art Image). These can be purchased in a large size (poster size) for viewing by whole classes, in mini-kits (postcard size) for use by small groups, and in pamphlets for use by individual students. The collection of reproductions contains many samples of work by Canadian artists. One set comprises the work of Aboriginal artists, and women artists are well represented. Second, a text, A World of Images, (Chapman, 1992), was chosen because of the richness and number of colour reproductions. Finally, reference books were to be purchased or borrowed by each participating school and made available to the art students. These include Art Synectics, (Roukes, 1982), Design Basics, (Lauer, 1985) and Canadian Art: Learning the Language, (MacGregor et al, 1987). Other texts are listed as resource material (Gilbert, 1992; Henley, 1992, Livesley, 1994). In addition to the printed visuals, any videos listed by the committee were dubbed and sent to each site. Videos not available for dubbing were purchased by the T.M. branch and rotated through the schools (Don Proch, 1984; Ester Warkov, 1984). One set of videos made of Manitoba teacher Jerry Marek demonstrating skills was particularly useful (Marek, 1989).

Sets of displays were prepared to supplement the visuals and texts. These enhance visuals in the texts by focusing on specific elements such as line or colour. They consist of posters, student work from other courses and magazine articles. Because it is impossible to build four identical kits, different visuals are used to illustrate the same concepts. The instructor was aware of which schools had which kit. The kits were rotated using meetings in the school division as contact opportunities. This solved one major problem.

Provision for Interaction

The results of the survey of teleconference teachers in Manitoba recommended that the teacher get to know the students personally. One teacher said that she had visited each student, another had described attending all sports tournaments, 4-H displays, car washes, and other events in order to make individual contact with students.

A review of the literature urged teacher-student interaction. Holmberg (1989) writes that a "depersonalized product and neutral interaction may stifle student motivation." She identified the need for an empathetic approach to teleconferencing where rapport and belonging are cultivated and the instructor "shares both the anxiety--and the eureka sensations." Gibson (1983) suggests that mutual understanding and personal contact imply a need for dialogue. Rekkedal (1985) shows that distance education students who had contact with a tutor were more active and completed a larger number of units. The same study recommends that the turnaround time of work between student and teacher be short (74 hours if possible).

The experimental course of the previous year had shown the eagerness with which students checked the photographs of whoever was speaking on the air, of the increased excitement generated at get-together days and of the increased effort put into art work at the site when the teleconference teacher was there. It is clear that some provision for personal interaction is a priority.

The following strategies were planned to increase interaction:

1. An initial visit was arranged, including students, proctors and administrators.

2. A photograph panel was given to each school for public viewing.

3. Specific activities were identified as group activities, some for groups at one site, and some for groups comprised of one student from each site.

4. Two studio get-together days were timetabled.

5. There were to be two on-air sessions. A whole group class was conducted from 1:00 - 3:30 on Wednesdays, and one hour on Thursday was set aside as a non class session, but the teacher would be on-air for individual students to ask questions, or to describe a current work. Students also could talk to each other.

6. School calendars were requested so that the teacher would know of extra curricular events which could be attended in person.

7. Whenever the teacher planned a trip in the area it would include an informal visit to the school. During the visit displays were viewed, student portfolios were evaluated, notes were left in portfolios or on blackboards, and, if students were still in school, informal meetings could take place.

8. In order to give an immediacy to the course a FAX would be sent to each site every Monday. This noted anything arising from the last session that needed to be dealt with by re-teaching or further development, and included responding to student input and changing direction to meet student needs. In this aspect the course follows the pattern of a traditional class rather than an I.S.P. course.

9. Each teleconference session begins with open conversation between sites so that students could socialize. Students also could visit over the air during the session's five minute breaks.

10. A few inter-site contests were planned. These included a few minutes of art trivial pursuit and quick pen sketches which could be FAX'd. Each school would take a turn providing music to be played when students are working individually.

11. Each session has a script into which questions are planned for each student. These could be not only questions based on current assignments, but also questions following up concepts in which students had shown interest or weakness at an earlier session.

12. Students are paired with a student from another school to evaluate each other's work or to complete a work together.

Implementation Plan

When delivering a course to several sites it is essential to provide administrators, proctors and students with a detailed plan. Everyone must know what supplies are needed for both the whole program and each lesson. All involved need a "road map" of where the course is going and how they will get there. The teacher must prepare the entire course in advance and ensure that everyone is informed. The following steps were planned to accomplish implementation.

Preliminary visit

At this visit students are given two large charts to be displayed in the teleconference room. One was a scope and sequence chart, and the other a list of everything students needed to collect prior to the first lesson. Instructions are given about how to assemble course material. So that students are clear about expectations, samples of journals, idea collections and modules are displayed. The teacher collects photographs of each student and glues them onto a board so that participants can picture members of the classes.

At this visit each proctor and student receives instruction on use of the teleconferencing equipment, and is allowed time to practice. Because students in the experimental course were irritated by unclear speech on the air, some training is given on enunciation and projection. Direction also is given in the areas of courtesy, both as speaker and listener, and tolerance for any silence preceding an answer. These courtesies are particularly important for this course, as students at each school speak a different first language. Practicalities such as how not to disconnect wires and how to repair loose connections if one should disconnect are discussed.

Proctor guide

The importance of the proctor became obvious early in the experimental course. The interest and encouragement shown by the adult in the room influences the quality of students' work. When the supervisor was a teacher on a spare (who had marked papers or prepared classes), students tend to meet minimum requirements. This includes even those who are interested in art. When a proctor shows an interest in student work and facilitates it, the products reflect that interest. It is not essential that a proctor has a background in art. The most successful proctor in the 1992 course was one who had shown that he considered the work to be important. He brought clean water as painters needed it (no easy feat in a room with 22 students, with no sink and teleconferencing wires everywhere). He also was excited about displaying all the work and had brought in visitors to see the displays.

The proctor guide (see Appendix B) lists the tasks that each proctor should complete before, during and after each teleconference lesson, and gives some advice about attitude. It also explains that more detailed instructions for each current lesson would be FAX'd to the proctor two days before the teleconference (see

Appendix C). This enables the proctor to read over the lesson plan, set out materials and visuals in the order they are needed and to deal with any fluctuations from the master plan. This contact was invaluable. It gave an immediacy to the course and let students know that their work is being monitored weekly. It also allows resolution of the unknowns that disrupt a plan. For example, parts of the broadcast may be missed by one of the schools because of a fire drill, or the RCMP needing the line, or a student disconnecting a cord.

Administrator's Guide

It is useful to have supportive principals. This can be accomplished by having information about the time, money and equipment required prepared in advance (see Appendix D). This information was presented at a principals' meeting. The meeting is a good opportunity to stress the importance of the proctor's role, and the choice of proctor. It also is an occasion to point out that an art course is not a frill, but includes skills which carry over to other subjects and can lead to careers. Principals are encouraged to visit the teleconference sessions, to view the displays and to attend the art show.

Transporting Art Work

An irritating problem experienced in the experimental course was poor delivery service leading to a long turn around time for student assignments. Questions could be asked on air, by phone or by FAX, but the artwork required physical delivery and return. Waiting until the teacher is on site could take three weeks. As there is no bus service and mail is expensive as well as slow, the following options remained:

1. A list was compiled of dates of all school divisional meetings requiring a representative from each school.

2. The schedules of itinerant personnel were requested.

3. A list was composed which included teachers who lived in a site town but worked elsewhere and who would be willing to transport artworks.

4. Local courier schedules were requested. This was expensive but was used in an emergency.

These solutions to the problems of transporting student work worked reasonably well because of the cooperation of the people involved.

EVALUATION

Because this was a pilot program both for teleconferencing Senior I Art and for the new Senior I Art Curriculum, there is a double focus to evaluation. First, the Senior I Art Curriculum Committee members want to know if their curriculum works. Second, as the teleconference writer/teacher I want to know if the distance education students had learned the content and skills included in the curriculum, if there was any affective changes, and how the students react to the teleconference situation. It also is important to obtain the observations of the proctors of the learning behaviour of students during the teleconference sessions. The following evaluations are made:

1. Students are evaluated as they would be for any high school credit.

2. Students evaluate the course in terms of how effective it was for themselves.

3. Proctors evaluate the course in terms of how far it met curriculum objectives and how the teleconference situation affects student behaviour.

4. The teacher kept a journal in which student behaviours are noted.

5. There is an opportunity at Senior I Art Curriculum meetings attended by other pilot teachers to compare the work of students studying the Senior I course by teleconferencing and students in regular classrooms.

Evaluation for High School Credit

An attempt to evaluate students according to the Senior I Art Committee's evaluation guidelines is made, but guidelines could not be adhered to strictly. In the area of evaluation, distance made a difference. The Committee stressed that not only art products be evaluated but also the five steps of the art inquiry process and the student journal. Some committee members want 50 percent of the final mark to be allocated to product, and 50 percent to process. However, because of the teleconference situation, process evaluation is difficult. The actual process could be evaluated only every third week when the teacher travelled to each site. By then the art process often had been completed and the final art product was ready for evaluation. Therefore, process evaluation was not done strictly according to the committee's evaluation guidelines.

Similarly, evaluation of students' journals is not as significant a part of total evaluation as the guidelines suggested. For two reasons the journals are done poorly, if at all. First, students require time and some privacy to record thoughts about their learning processes. In a regular classroom students pause from hands on work to write down ideas in a journal; in a teleconference class everyone moves together. Second, because insufficient time was made available for the art course in one of the schools, there was pressure to finish the units and have a product completed.

The marks for the teleconference course are distributed as follows: 60 percent for product, 20 percent for process, 10 percent for the journal and 10 percent for quizzes. The chart of marks (see Appendix E) shows that 28 students received a credit, while 2 failed. The 2 students who asked to complete work during the summer and fall, did so. The average mark for all schools was 76 percent. I was satisfied that the goals and objectives of the teaching modules were met and that the students had learned both content and skills.

Students' Evaluations of the Course

I wanted to know how far teleconferencing advanced students' knowledge of, and skills in art, and if students thought that their attitude towards art had changed during the course. A questionnaire was FAX'd to the students on the last day of the course (see Appendix G). Twenty-one students returned the questionnaires. Question 1 dealt with prerequisites for the Senior I course: 10 students responded that they had taken art classes before. Question 2 asked why students had taken the course: 5 indicated they had wanted to obtain a credit, while 7 said they enroled because they liked art. The others were enroled as part of a class; they had no choice.

Questions 3, 4 and 5 concerned their comfort level using the teleconference equipment: only 1 student admitted to being uncomfortable and said it was because "so many were listening in", 4 complained about faulty equipment and 13 noted occasional frustration because it was hard to hear. Reasons offered for this were: "You couldn't see", "Some people had accents", and "Sometimes it was noisy and directions were missed". Question 5B asked if it was easier to understand the lessons when the teacher teleconferenced from your school? Nineteen students checked "yes" and gave the following reasons: "She could show us", "I'm visual", "She gave individual attention" and "We could ask more questions". Only two said it did not make any difference.

Questions 7, 8 and 9 dealt with timetabling, supplies and booklets. Half the students reported being short of time. The 110 minutes/cycle recommended by the Art Curriculum Guide was not always available.

Half the students complained about the poor quality of the copies of the modules. The discrepancy was due to different machines in the schools. Some students found the terms "module" and "step" confusing, and suggested using "chapter" and "lesson", "like in a regular text book".

Question 10 asked if students knew more about art after having taken the course: 1 replied "No" because she was an adult sitting in on the course to practice, 2 replied "Yes a bit" and 17 replied "Yes a lot".

In answer to question 11, 18 students thought that their skills had improved, while 2 did not. Answers to question 12 show that 18 students like art better after having taken the course.

Questions 13 and 14 asked what students had liked and disliked: 7 complained about written assignments, 4 about being too rushed and 4 about disruptive students in other schools. When indicating what they liked, they named specific modules or topics.

Question 15 asked students to rate methods of learning art: 12 state that they prefer to take art in a regular classroom, 4 prefer art by teleconference, 2 prefer working alone following modules and 3 want to get together with other students for studio days.

Question 18 asked for recommendations to teachers planning future art courses: 4 students ask for better equipment, 4 students want clearer modules, 3 students want more projects and less book work, 3 students want more time and 2 recommend more discipline for "the noisy school".

The student evaluation questionnaire confirms that students learn about art and improve their skills. Answers indicate that an affective change has taken place. Most students prefer to learn art in a regular classroom and most feel they learn more when the teleconference teacher is at their site (perhaps because this setting is closer to that of a regular classroom). Students ask for improvement in time allotment, quality of equipment and classroom discipline at other sites.

Proctor Evaluation

Proctors evaluated student learning. Each was given a check list to complete after observing four lessons (see Appendix H). The check lists indicate that in two schools students generally understood the directions, participated in the process and completed the assignments. In one school, there were 3 students out of 9 who had difficulty following the oral directions and the proctor had to repeat them and list them on the board. These students participated eagerly but levels of completion fluctuated. Two students did minimal work, and one complained about content of the course.

Proctors also completed a summative evaluation (see Appendix I). This was completed in two parts, the first of which contained a Likert scale that rated success in achieving the goals and objectives of each module. In this way both the course and the instruction were evaluated. On the scale 1-5, most modules had 4 and 5 circled (positive responses).

The second part of the evaluation asked proctors to compare students' learning in the regular classroom with that in the teleconference class. At School B, the proctor checked "no difference" to each category except the one titled Listening to Each Other which he checked "better". At School A, 4 categories were marked "no difference" and 2 categories, Listening to Each Other and Supporting the Ideas of Others, were checked "better". One category, Following Directions, was checked "less well". At School C the result was quite different. Students did less well in Listening to Directions, Following Directions, Completing Classwork and Completing Homework. They did better in Listening to Each Other, Contributing New Ideas

and Supporting the Ideas of Others. This proctor noted a "vast difference" in student behaviour when the teacher was physically present teleconferencing from School C. This evaluation indicates that students who are generally cooperative and focused succeed in a teleconference situation. Those who have trouble concentrating and following directions in a regular classroom do poorly as part of a teleconference class.

The Evaluation Journal

An ongoing evaluation was made by the writer/teacher in the form of a journal. Although several questions were preconceived--How is teleconferencing different for the teacher and for the student? What has to be done to make this method work well? How do different types of schools handle teleconferencing? How does school climate affect students' success in teleconferencing?--room was left for the serendipitous. Notes were made after each broadcast. The following general observations were made at the end of the course.

How is Teleconferencing Different for the Teacher?

It is difficult to monitor via teleconference how much learning is taking place at another site. This is particularly true when teaching methods vary from the traditional teacher student interaction. I experienced a sense of loss of control when students were engaged in group work of any kind. This was more marked when difficulties arose for students in groups.

Teleconferencing weakens the interaction between teacher and student. Much more is written in the journal about students at the site from which the broadcast was made. Similarly, more needs are expressed by and attended to for the students on site. Because the teacher is on site only once in three weeks, the student/teacher relationship did not advance. I often needed to check the photographs to recall students between visits. Even though contact with each student is scripted into every lesson, these could not match the number of contacts achieved while the teacher was on site. On site contacts are increased by frequent eye contacts, smiles and occasional physical proximity. Also, the off-site teacher cannot see students' expressions.

Clarity of language is essential in teleconferencing. Directions must be explicit. Word choice is important, words must be specific, and the instructor cannot speak in generalities. The lessons floundered whenever instructions were vague or had parts missing, or were for ideas added at the last moment. Lessons for which a script was written went smoothly. The students are more relaxed when they understand exactly what they are to do.

The teacher must be organized. Teleconferencing is no place to change the directions of a lesson. The other sites must be with the teacher at each step (including steps taken prior to the broadcast in assembling materials). The day before each broadcast, the proctors must have the lesson outline, all handouts and the names of the visuals.

Surprises cause problems. For example, a surprise quiz/contest proved disastrous. The quiz was FAX'd to each school together with answers for the proctor. The secretary at each school copied the quiz/contest, and at one school copied the answer sheet as well which was distributed to the students. Of course that school won the contest with a score of 100 percent. The teacher saw the copies of the answer sheet on the next visit.

It is difficult for the teacher to monitor cheating. The distance, combined with process evaluation, makes it easy for students to copy work and to get marks for it. For example, a student presented as a final product a drawing which probably had been "improved" by another student. The proctor remembered the student beginning the project, but was replaced by other proctors during the afternoon. The student finished the work after class. The teacher was then given a finished portrait to evaluate. Had the work been done under the

eye of a regular teacher, the student's progress would have been monitored by that teacher. A suggestion was made that the students do some drawing under test conditions. However, this is not recommended by the Art Curriculum Committee.

How is Teleconferencing Different for the Student?

Some students who do not follow directions well become even more lost during teleconferencing and either demand more attention or do not function effectively.

Some students at sites other than where the broadcast is being made feel neglected. They feel that the teacher is more available to on-site students and gives them more attention. This is true.

Students tend to work a little harder and to finish work in more detail and with more interest when the teacher is on-site. This happened even if the teacher does not offer suggestions but merely looks over the student's shoulder.

What is the Effect of School Climate?

School climate is critical. The success of the students depends largely on support from the school administration. Two of the three teleconference schools had this support whereas the third school did not provide enough time either for students to do the work, or for the proctor to meet with students off the air. The course broke down at several points. For example, when the teleconference session is ready to begin, students at that school rush to gather items which should have been ready, while students at the other two schools wait restlessly. These students struggle to complete projects, fail to do the off-air work and leave the room in a shambles. No student work is put on display for the school body. At this school the proctor is called out of the class for meetings and replaced with any teacher on a spare. Frequently four different proctors appear in the course of the afternoon. The lack of support translates first into frustration and then into lack of caring by the students. The average mark of students in the school is 72 percent. The average of the other schools is 79 percent. This occurred in spite of the fact that I spent more time teleconferencing from this school and dropped by to encourage students by giving extra help.

What Serendipitous Effects are Noted in the Journal?

Students are already at ease with current technology, and everyone could set up the equipment. If something did not work, most knew what button to push. They used tape, elastic, and other means to temporarily fix things.

Working with students from other schools creates an excitement in the rooms. Most students in rural schools have been together since kindergarten. The low enrolment in each grade means they work together daily. All are stimulated by the new relationships. The teacher, too, enjoys having three new sets of students.

Having three other teachers (proctors) listening to the lesson causes the art teacher to examine the structure of each lesson to make it as effective as possible.

Comparisons with Other Students

Although no control group was available for comparison, I had two opportunities to compare artwork produced by the teleconferencing class with that of students in nine regular classrooms. The nine regular classrooms had piloted units of the newly written Senior I Art Curriculum. The pilot teachers met twice with the Senior I Art Curriculum Committee to describe how the new curriculum was received by students in the

pilot schools. The pilot teachers were asked to keep observation journals of what works well and of problems. They also were asked to bring samples of student work, including work in progress and student journals, to the two meetings.

The work of the teleconferencing class shows no differences that could be attributed to method of delivery. The problems encountered in the teleconference class--a wide range of level of skills, students resistance to study of theory, student resistance to keeping a journal and insufficient time scheduled for art class--are cited as problems by teachers of the regular classes. The artworks of the teleconferencing students are well received by the committee and the pilot teachers, and compare favourably. Superior work is completed by students who had had art classes throughout junior high school and were taught by teachers with Fine Arts Degrees. Among the teleconferencing students the best work is from students who have completed a Grade 8 art course, and who work diligently through the five step process.

SUMMARY AND RECOMMENDATIONS

Major conclusions and four recommendations are presented in this section. The first conclusion is that there are several areas of dissatisfaction which indicate that teaching art by teleconference is not the preferred method. Students prefer a "real" teacher, one who is present physically, and sometimes feel neglected when the teacher is teleconferencing from another school. This preference also is shown in the superior quality of work when the teacher is on site. Also, those students who have difficulty following directions in regular classes find their problems increased when learning by teleconferencing.

Second, as the instructor, I was frustrated by the difficulty in following a student-centered approach, and by the slow development of a student/teacher relationship. Too many students in too many areas impede the establishment of an intimate atmosphere conducive to the sharing of ideas. The distance situation also impedes the maintenance of good discipline as the teacher has to rely on proctors with differing levels of authority.

Third, although art by teleconferencing is not the preferred method of teaching art, it is a viable method. In this project 28 students received a credit which would not have been available to them without the teleconference course. Students with an inclination towards art and students who are visual learners are given an opportunity to learn in their own style. Three students were motivated to consider careers in art related fields. Moreover, students at each site requested that a teleconference art course be offered the next year.

I was satisfied that the range of accomplishment in this course is similar to the range of accomplishment in non-teleconference courses. This comparison is based on 20 years of experience in eight different schools and many subject areas.

Recommendations

Teleconference courses should be given equal status with regular classroom courses. Teleconference courses should be scheduled into the regular school timetable. Students should not be required to opt out of another class to take part in the teleconference and to make up the missed classwork later. The teleconference course should be allocated the amount of time recommended by the Art Curriculum Guide. This ensures that class time outside that of the teleconference session itself will be made available for students to complete assignments and practice the skills. Also the teleconference teacher will not feel pressured to delete material in order to complete coverage of course content.

A physical facility equal to that provided for a regular class should be made available. In the case of art, this includes a room with sinks, large tables, and storage facilities as well as a place for the teleconference

equipment. Ideally a method should be designed for suspending microphones so that art students' hands remain free. Students should have access to this room to work during free periods and noon hours.
One person should be assigned as proctor for the duration of the course. Students need more than supervision during a teleconference session. They need a proctor to supervise them who is aware of the program goals, is interested in the subject, will support their efforts to stay on task and complete assignments, and who is comfortable with both the disarray of an art room and the on-air delivery of a course.

The range of media (materials with which art is created) should be extended to include water and oil paint, pastels, clay, wood, and fabric. Most distance education courses, particularly the traditional art by correspondence course, have limited students mostly to pencil and tempera paint. Given the number of artists in rural areas who are weavers, photographers, stained glass workers, and use other media experience should be provided in more areas.

Quality resource materials should be located and purchased. In a regular classroom an art teacher builds up an extensive collection of reproductions and videos. Because a teleconference teacher requires several collections--one for each site -- and the collections must match, a source should be identified from which sets can be purchased.

In art, perhaps more than any other subject, an extensive variety of visuals is essential. In art by audio teleconferencing the need is even greater. Budget allocations should reflect this. Students should be immersed in images both in print and on film. A course textbook is a minimum requirement.

A course should be developed to help prospective teleconference teachers to acquire skills specific to the teleconference situation. Adapting the content of the curriculum and of the text book for delivery by audio requires some transforming of the structure and of the language. Melton (1990) advises that teaching methods may have to change and that these changes may not always be acceptable to the original writers. Also, particular attention should be paid to clarity. A teleconference teacher cannot see confusion in the faces of students, or multiple interpretations of one set of instructions. Instructions must be clearly thought through before delivery.

Teleconferencing requires strong communication skills. Without trying to become a media personality a teacher must develop a well modulated voice, clear diction, a variety of expressive tones, and the ability to connect with a listener.

Alternative teaching methods should be studied. Current teleconferencing usually follows the lecture method. Ways of adapting other methods such as co-operative learning, student centered learning, peer tutoring and peer evaluation should be developed. In particular, distance education teachers should encourage search for the advantages rather than obstacles created by distance, and to develop methods peculiar to distance situations. For example, methods could be developed which benefit from students having different geographical locations and different backgrounds. They could go beyond methods identified in the current provincial Curriculum Guide.

The content of The Manitoba Art Curriculum could be extended. For example, an existing unit in landscape could be expanded to encompass more on-location sketching for rural students, an investigation of the influence of climate, and a study of the co-existence of natural beauty and that created by people. Similarly, modules could be adapted to permit students to work with artists in their community thus taking advantage of local expertise.

Information should be given to prospective teleconference teachers about the stresses, or lack of stresses, acting on students learning at a distance, together with strategies for maintaining student interest and momentum. Opportunities for increasing student-teacher interaction should be emphasized.

Finally, strategies for the training of proctors, perhaps by way of a separate course, should be addressed. The role of the proctor is critical; he or she will take a larger role in the program than that taken by a teacher-aide in a regular classroom where a teacher is present to make decisions and deal with students.

A separate model should be developed. The model described in this paper is at best adequate. Hathaway (1989) writes that technology always has changed the way we work. In the introduction to this paper, teleconferencing is compared to the situation in the early days of cinema when a camera operator filmed action on the stage. When filming broke free of the stage its potential as an independent art form became apparent. Similarly, teleconferencing must find new methods, rather than continue imitating those of a classroom. The chains which bind it to the traditional classroom and curriculum, I.S.P. and T.M. methods, and the methodologies of urban classrooms, must be replaced. Negotiable links with existing community resources, rather than ones that are forged, are essential.

Another change would involve the pattern of lessons. Rather than the pattern indicated in diagram 1, a pattern similar to that of diagram 2 would emerge (Figure 1). In diagram 1, a simple pattern of on-air and off-air sessions divides the content into equal sections. The pattern allows for nc variety of delivery method. Diagram 2 shows a more complex structure of five methods of learning. The methods are decided by the content and by the needs of the students. It allows for large and small group teleconferencing, for individual students to contact the instructor, for students to do research and project work alone, and for whole groups to come together. In diagram 2, the needs of students and of course content decide the pattern of course delivery.

If the delivery in diagram 2 is implemented, the student print package would change. Rather than a workbook which teaches the content and provides spaces for student answers, students would receive directions for doing their own research, recording their own ideas and reflections, asking their own questions and formulating answers.

This would be facilitated by quality resources including videos. A module which customizes and individualizes programs would be useful. Field trips would be frequent--many locally based ones, and some more extensive ones to other areas. The sequence and pacing of the work would be supervised by the teacher and monitored with help from the proctor. Frequent contacts between teacher, student and groups of students would be planned.

Figure 1

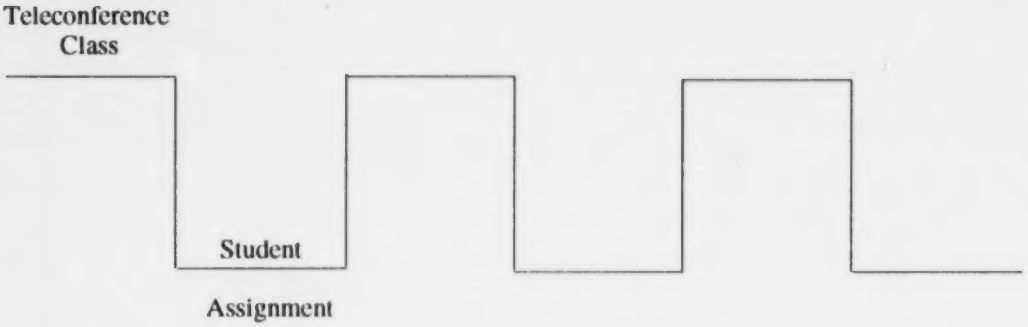

Diagram 1. A current pattern for teleconferencing

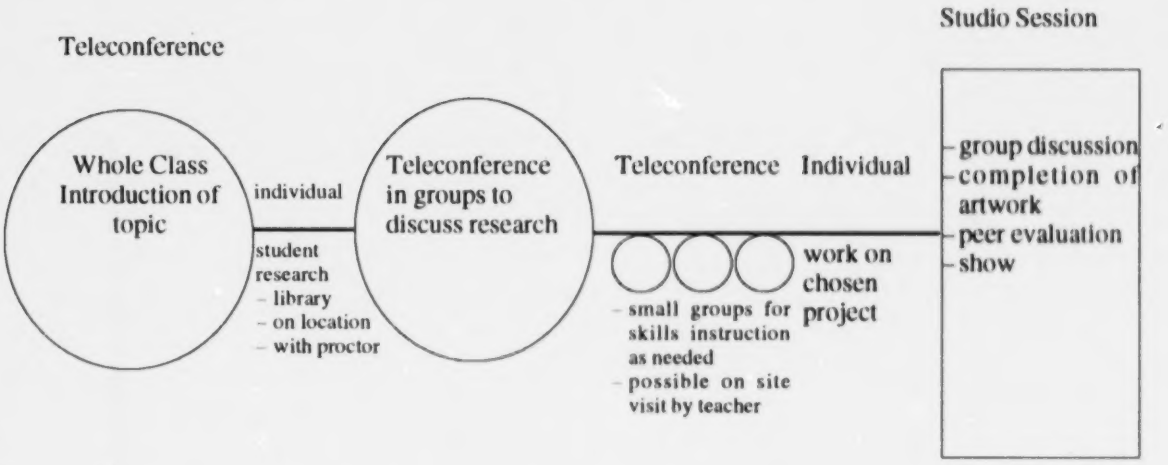

Diagram 2. A diagram for teleconferencing which follows the five step process of the Senior I Art curriculum.

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Appendices

A. Survey of distance education methods
B. Proctor Guide
C. Sample FAX'd lesson plan
D. Administrator's guide
E. Student marks
F. Pilot teachers' evaluations, and guidelines for their comments
G. Student evaluation for Senior I
H. Proctor evaluation forms for a single lesson
I. Summative evaluation for Senior I Art course

Appendix A

Survey of Teleconferencing Models

1. What course did you teach by teleconference?

   _____

2. What elements of the course did you use?

   _____ a student workbook such as and I.S.P. book
   _____ your own worksheets
   _____ a textbook
   _____ extra resources you supplied
   _____ I.S.P. tests
   _____ your own tests

3. Did the course you wrote need visuals such as maps, diagrams or pictures?

   _____

   How did you provide these for each site?

   _____

   How did you handle copyrights for visuals?

   _____

4. Did you adapt the course for the teleconferencing situation?

   _____

   Please explain what was adapted.

   _____

5. Was the course you taught part of the regular timetable?

   _____

   Did the students have time scheduled during the school day to complete assignments?

   _____

6. Was the role of the proctor clearly spelled out? _____
   By whom? _____

7. Evaluation: Did you evaluate any process? _____
   How was this managed? _____

8. Please describe any difficulties you encountered when teaching by teleconference?

Appendix B

Proctor Guide Senior I Art

The proctor is the adult who is in the room with the students during the teleconference session and who assists the teacher. As the proctor may be the only one with direct contact with the students, it is important that the proctor support student efforts with interest and assistance.

There are two sets of directions. The first is a set of general directions applicable to every lesson. They are in this booklet. The second set will be FAX'd each Monday morning and will contain last minute details and a lesson program for that week.

General instructions

1. Read over the course outline and the goals of the course.

2. Check that all supplies, texts and visuals requested for the whole course have been delivered and know where they are kept. You will need to get some of them ready for each lesson.

3. Familiarize yourself with the teleconference equipment. Draw up a rota for students to connect the equipment for each session. Watch that students use the microphones correctly. Become comfortable with a microphone yourself.

Before each lesson

You will need to get out materials, texts and visuals for the lesson. They should be in order of use according to the Monday FAX'd lesson program. If the teacher asks you to display a visual, make sure every student can see it. Walk around with it. Point to features of the visual mentioned by the teacher. If an extra handout is sent with the lesson program, have copies made and ready to hand out.

During each lesson

Keep students on task by making sure they know what page the class is on and providing materials as required. Move around the class observing student progress, encouraging when needed. For some lessons you will be asked to keep a check list noting student behaviours. Put up the charts that illustrate the concepts of each lesson as the concepts are discussed. Write assignments on the board so that students can copy the details.

Towards the end of the lesson supervise clean up. All students must participate--clean up is part of the course. Have everything put neatly away in the assigned place.

After each lesson display student work in the area chosen. Have students title and sign each piece. Encourage students to look at the display and invite the other students, and staff to view it.

Between lessons check with students to see if they are meeting deadlines for assignments. If you have class time outside teleconference sessions, nudge students to use it well. Remind them of instructions given during class. Refer them to charts of concepts discussed over the air. Create a working atmosphere.

Before the next session take down the art display and have students store everything in their portfolios. They will need everything for evaluation. Occasionally you will be asked to FAX or mail student work, or to give it to the principal to be delivered.

Appendix C

Proctor Guide for April 17, Module 3

Learning Objectives: Students will become familiar with techniques in water colour.

Program		Materials Needed
1:15	Review Creativity I from last week Peer critique of portraits Collection of unit assignments	Visuals as listed on page 7-8 of Student Module 3 should be on display from last week Log sheet 3 Logs 1, 2, 3 and portrait
1:30	Watercolour techniques	Materials listed on page 9 of Student Module 3 Visuals 3-10, 4-11, 4-8 Chart of watercolour techniques: keep on display. While student work, proctors complete the checklist on student behaviour and FAX back.
2:30	Planning a painting	Envelope of winter scenes

Assignment (Please note changes here and pin on notice board) View video watercolour when it rotates to your school. Select and announce a time for group to view it.

Complete Step 4, "The Solution".

Reminders Peter and Gerry (absent last week) dial in for extra class tomorrow at 2:15.

Kate - Unit I still incomplete.

Appendix D

Administrator Guide Senior I Art

An outline listing goals and list the scope and sequence of the course is attached.

Time

The Curriculum Guide suggests allotting 110 minutes per week. One Teleconference session will be every Wednesday from 1:15 to 3:15. Students can set up at 1:00 p.m. and clean up at 3:15. They will need another two periods to work on assignments.

Facility

The room should have a telephone jack.

There should be large tables, access to water and storage for art materials and student work in progress.

It would help students if they had access to the room during free periods so that they could work on their projects.

A display area where students could show their work is needed.

Staff

A proctor (teacher or teacher-aide) should be assigned responsibility for assisting students in class and monitoring student completion of assignments. A proctor guide is attached. One person should be designated as proctor for the duration of the course.

Budget

A list of texts, visuals and art materials required is attached. The cost per pupil is approximately $85. The visuals are useful for social studies and language arts and it is suggested they be bought by the library as resource materials for all classes.

Appendix E

Senior I Art Evaluation Marks

School A

Student 1	80
Student 2	78
Student 3	84
Student 4	74
Student 5	69
Student 6	77
Student 7	91
Student 8	I (completed in July - 87)

School B

Student 1	91
Student 2	85
Student 3	51
Student 4	79
Student 5	77
Student 6	75
Student 7	70
Student 8	75
Student 9	73
Student 10	79
Student 11	83

School C

Student 1	78
Student 2	70
Student 3	59
Student 4	71
Student 5	65
Student 6	75
Student 7	87
Student 8	I (completed by November/93 - 71)
Student 9	Incomplete
Student 10	Withdrew

This school had extra support: more teleconferencing took place from this site, and the writer/teacher made extra visits to solve problems and to collect assignments.

Appendix F

Senior I Art
Pilot Teacher Survey
Program Evaluation

Unit_____

Teacher_____

Unit Objectives

_____

_____

_____

Do
- collect samples of student work, both process and product
- take photographs
- collect samples of written work and comments from students
- collect examples of idea journals

Write a journal entry daily, using the guidelines provided: include reactions of students, other teachers, principals, other administrators, parents.

Senior I Art Pilot Course: Pilot Teacher Evaluation Form
Guidelines for Comments by Teachers

On the form provided briefly describe what happened during the lesson.

Ease of Preparation

- availability of resources, materials
- clarity of directions/concepts in the guide

Effectiveness of Process

- Step 1. Sources of ideas: Did some originate with students? Did students feel confident enough to contribute, react? Could supportive class climate be developed with these activities? Were students motivated and interested?

- Step 2. Fact finding: Which activities advanced student knowledge, student understanding of concepts? Which proved difficult or ineffective?

- Steps 3 and 4. From observation of body language, etc., would you say that students were absorbed in this process, moving from previous experience to new knowledge? Was there evidence of choices being made? Did students have adequate skills to proceed, or were mini-lessons needed?

- Step 5. Did peer and self evaluation show increasing appreciation of elements and principles? Did evaluators take time to peruse before judging? Did evaluators offer support?

Journals

Did students have/take the opportunity to use words and sketches to explore new ideas? Did they collect resources, try alternative solutions, write about their progress in learning?

Curriculum Model

Did the process show back and forth movement? Were the four areas of Design, Media/Techniques, History/Culture and Criticism/Appreciation adequately covered?

Insert separate page(s) for written comments on each lesson in the unit. Include dates and length of class time.

Appendix G

Student Evaluation of the Senior I Art Course

Please answer thoughtfully and honestly. No names are needed.

How successful was Art by teleconference for you?

1. What are courses had you had in grade 7 and 8?

   a) Regular classes in art at school.
   b) No art at school but art club or 4-H art.
   c) A teleconference class.
   d) No art at all.

2. Why did you take Senior I Art This year?

   a) Everybody in the class did.
   b) To get a credit I needed.
   c) Both a and b.
   d) Because I like art and am interested in a career in design or art.
   e) Another reason, which is _____

3. Did the teleconference equipment work well?

   a) Yes.
   b) No, because _____
   c) Most of the time.

4. Were you comfortable using the microphone?

   a) Yes, because _____
   b) No, because _____

5. Could you understand the lessons that were given over the loudspeaker?

   a) Yes.
   b) No, because _____
   c) It was sometimes difficult because

6. Was it easier to understand the lessons when the teacher (Mrs. Bewer) came to your school?

   a) Yes, because _____
   b) No, because _____
   c) It did not make any difference.

7. How many class periods were timetabled just for the art course at your school? (Count both teleconference classes and classes for you to do assignments) _____

8. When were your teleconference classes scheduled?

   a) During their own time slot.
   b) During noon hour or before school.
   c) During other classes, so I had to leave the other classes.

9. How were the handout booklets for the modules?

a) Easy to follow _____
b) Difficult, because _____

10. Do you feel you know more about art after taking this course?

a) no
b) yes, a bit
c) yes, a lot

11. Do you feel your art skills (drawing, painting, working with clay) improved during this course?

a) no
b) yes, a bit
c) yes a lot

12. Do you like art better after taking this course?

a) no
b) yes, a bit
c) yes, a lot

13. Things I liked about the course were: _____

14. Things I didn't like about the course were: _____

15. Put 1, 2 and 3 in order of how well you would like each type of art lesson.

_____ Art in a regular classroom with a regular teacher.
_____ Art by teleconference.
_____ Working alone on art assignments using instructions form the modules.
_____ Getting together at another school with other art students.

16. Were you pleased with your mark for Senior I Art?

Yes, because _____
No, because _____

17. The modules I liked best were:

1. _____
2. _____
3. _____

18. What advice would you give to the teachers planning a future art by teleconference course?
_____

Thanks a lot for answering these questions.
Happy Summer!

Appendix H

Proctor evaluation of students for Lesson of (Date)

Student

Did student come to class prepared? (books, homework, etc.)

Did the student listen to teacher and other students "on-air"? Is student comfortable "on-air"?

Did the student complete activities as assigned during the class?

Was the student supportive of the ideas of other students?

Do you feel this student is moving to new knowledge?

Did this student have skills expected by the teacher?

Comments:

Appendix I

Summative Course Evaluation of Senior I Art by Proctors

Purpose: To establish if, and how far, art can be taught by teleconference.

Part A The goals of the Senior I Art program are listed. Please check how far your believe these goals were met by this course.

Goals		Not Met				Successfully Met
Module 1 "To See - - -"						
a.	To discover that how we see things is influenced by colour, light and relationships between objects.	1	2	3	4	5
b.	To create a still life of objects to make a statement about oneself	1	2	3	4	5
Module 2 "It's a bird - - -"						
a.	To encourage students' creative thinking and drawing.	1	2	3	4	5
Module 3 "Who am I?"						
a.	To show that portraits say something about people.	1	2	3	4	5
b.	To create a personal portrait that tells the viewer something about the student.	1	2	3	4	5
Module 4 Inside Outside (sculpture)						
a.	To study the relationship between the natural and built environments.	1	2	3	4	5
b.	To create a painted sculpture contrasting natural and built worlds.	1	2	3	4	5
Module 5 About Face (masks)						
a.	To review the functions and history of the mask.	1	2	3	4	5
b.	To create a mask with a distinct personality.	1	2	3	4	5

Goals		Not Met				Successfully Met
<u>Module 7 TV or not TV (posters)</u>						
a.	To understand how advertisers communicate a message.	1	2	3	4	5
b.	To create a poster that uses communication techniques of the media.	1	2	3	4	5
<u>Module 8 Touch the Earth (clay)</u>						
a.	To learn that all peoples made clay vessels which give us clues to the past.	1	2	3	4	5
b.	To create a clay vessel which gives clues to our culture	1	2	3	4	5
<u>Module 9 Horizons (landscape)</u>						
a.	To show that artists are influenced by the world around them and show this influence in their work.	1	2	3	4	5
b.	To develop a personal style in landscape.	1	2	3	4	5
<u>All Modules</u>						
a.	To use a process including research and preparatory sketches before a final project.	1	2	3	4	5
b.	To use own ideas rather than copying the ideas of others.	1	2	3	4	5

Part B From your knowledge of your students' attitudes and behaviours in a traditional classroom situation please check if the teleconference situation made them perform less well, better or if there was no difference.

	Less Well	Better	No Difference
Listening to directions			
Listening to each other			
Following directions			
Contributing their ideas to the discussion			
Supporting the ideas of others			
Completing in-class work			
Completing homework			

Part C

Were there problems with equipment or air time? Please specify.

_____

_____

_____

Were there problems with the modules and handouts?

_____

_____

_____

Were there problems with the teacher's delivery, instruction, or evaluation of the course?

_____

_____

_____

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